

## **REMARKS**

### **Rejection of claims 10-12, 15-18 under 35 U.S.C. §101**

The Examiner rejected claims 10-12 and 15-18 under 35 U.S.C. §101 as being directed to non-statutory subject matter. In response, claims 10 and 15 were amended and claims 12, 13, 17 and 18 were cancelled to overcome the Examiner's rejection.

### **Rejection of claims 1, 3, 6, and 10-12 under 35 U.S.C. §103(a)**

The Examiner rejected claims 1, 3, 6, and 10-12 under 35 U.S.C. §103(a) as being obvious over Whaley *et al.*, "Compositional Pointer and Escape Analysis for Java Programs". Applicant traverses the Examiner's finding of obviousness of the claims as amended.

### **Claim 1**

Claim 1 was previously amended to recite the additional limitations of former claim 2. In claim 1, the escape mechanism is operating on the first compilation unit prior to compiling the second compilation unit and determines to set an object as no escape based on information from the first compilation unit even though it cannot yet make a definite determination the object does not escape. It cannot make this determination because all the compilation units have not been compiled yet. The cited art does not teach or suggest to allocate to the stack prior to a definite determination that an object does not escape. In the cited art, in each case, a determination is made that an object does not escape, then the allocation is made to the stack. In contrast, in the present invention, the allocation to the stack is made "based on information available from classes visible in the first compilation unit but not visible in the uncompiled second compilation unit."

This means that the present invention makes an optimistic assumption that the object does not escape and places it on the stack. Later if the assumption is found to be incorrect it can be changed to the heap. In the prior art, an object was assumed to escape if it was unknown whether it would escape or not escape. In Whaley, an object was placed on the stack if it did not escape, meaning having analyzed all the data determined that the object did not escape. In Whaley, as in the other prior art, if an object was not yet determinable whether it escaped or not escaped it would be placed in the heap.

The claimed feature of allocating to the stack “based on information available from classes visible in the first compilation unit but not visible in the uncompiled second compilation unit” is not taught or suggested by Whaley. Similarly, Choi does not label the objects until a determination is made whether the object escapes or not. In Choi, as is typical in the prior art, no allocation to the stack is done without a knowledge of the lifetimes of the object. (See page 4 of the application for further characterization and contrast of the Choi reference.) Applicants believe claim 1 is in condition for allowance. Since the cited art does not teach or suggest the invention as claimed, applicants respectfully request reconsideration of the Examiner’s rejection under 35 U.S.C. §103(a).

### Claim 3

Claim 3 depends on independent claim 1 amended as described above, which is allowable for the reasons given above. As a result, claim 3 is allowable as depending on an allowable independent claim. Further, with regard to claim 3, the Examiner states that Whaley 7.1 teaches “marking a new instruction ... based on information .. that are visible in a specified classpath.” Applicant can find no such teaching in the cited text. A specified classpath can be one specified by the user as described on page 20 of the specification. Applicants believe claim 3 is in condition for allowance. Reconsideration is respectfully requested

### Claim 6

Claim 6 was previously amended in a similar manner as described for claim 1. Claim 6 has been amended herein to recite the additional limitations of former claim 7. In claim 6, the escape mechanism is functioning on the first compilation unit prior to compiling the second compilation unit. The cited art does not teach or suggest claim 6 as amended. Further, with regard to claim 7, the Examiner cites 2.1, 2.2 and 7.1 for the teaching “marking a new instruction ... based on information .. that are visible in a specified classpath.” Applicant can find no such teaching in the cited text. A specified classpath can be one specified by the user as described on page 20 of the specification. Applicants believe claim 6 as amended is now in condition for allowance. Reconsideration is respectfully requested.

### Claim 10

Claim 10 was previously amended in the same manner as described for claim 1 and the rationale for claim 1 is incorporated here. As a result, claim 10 is allowable under the same rationale as set forth for claim 1. Applicants believe claim 10 as amended is now in condition for allowance. Reconsideration is respectfully requested.


### Claims 11-12

Claims 11-12 and 15 were cancelled as discussed above.

Conclusion

In summary, none of the cited prior art, either alone or in combination, teach, support, or suggest the unique combination of features in applicant's claims presently on file. Therefore, applicant respectfully asserts that all of applicant's claims are allowable. Such allowance at an early date is respectfully requested. The Examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

Respectfully submitted,

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